



# ***MODerate-resolution Imaging Spectroradiometer (MODIS)***



## **Direct Broadcast MODIS Data**

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## ***EOS AM-1 Direct Access System (DAS)***



- **Real-Time Direct Downlink (DDL) of ASTER (Vis-NIR-Thermal High Resolution) Data**
- **Real-Time Direct Broadcast (DB) of MODIS Data and Ancillary Data**
- **Direct Playback (DP) for Back Up of Ku-Band Science Data Downlink**
- **CERES, MISR and MOPITT Data Only Available Through DP**



# *DAS Specifics*



- **Broadcast Frequency is 8.2125 GHz**
- **Q:I = 4:1 for Direct Broadcast (DB) and Direct Downlink (DDL); Q:I = 1:1 for Direct Playback**
- **Direct Broadcast Mode:**
  - I Channel is Uncoded; 13.125 Mbps
  - Q Channel is Serial Encoded; 13.125 Mbps
- **Direct Downlink Mode**
  - I Channel is Serial Encoded 13.125 Mbps (MODIS)
  - Q Channel is Parallel Encoded; 105 Mbps (ASTER)



# *Sources of Information*



- HDF FILE SPECs ON MODIS ANONYMOUS FTP SITE
  - [ltpftp.gsfc.nasa.gov](http://ltpftp.gsfc.nasa.gov) (ip address 128.183.10.134)
  - in /projects/modis/stig/hdf AND /projects/modis/icd
- ATBDs ON THE EOS PROJECT SCIENCE OFFICE WORLD WIDE WEB SITE
  - <http://spso.gsfc.nasa.gov/atbd/pg1.html>
- PRODUCT SUMMARY DESCRIPTIONS ARE ON MODARCH WORLD WIDE WEB SITE
  - <http://modarch.gsfc.nasa.gov/MODIS/DATAPROD/dataprodcats.html>
- MODIS I/O ROUTINES ARE AVAILABLE
  - contact Jim Firestone, [firestone@ltpmail.gsfc.nasa.gov](mailto:firestone@ltpmail.gsfc.nasa.gov)



# *Data Production Issues*



- **Level 1B Code Will be Implemented On Field Programmable Gate Arrays (FPGA)**
  - Provides a Point Solution for Other Users to Adapt
- **Level 1A Code Could be Implemented in Same Manner**
- **Additional Code Needed to Bridge Between Level 1B and Level 2 and Higher Products**
  - Bow Tie Effect?
  - Simple Cloud Mask?
- **MODIS Should Provide Selected Level 2 & 3 Code For Direct Broadcast Users**



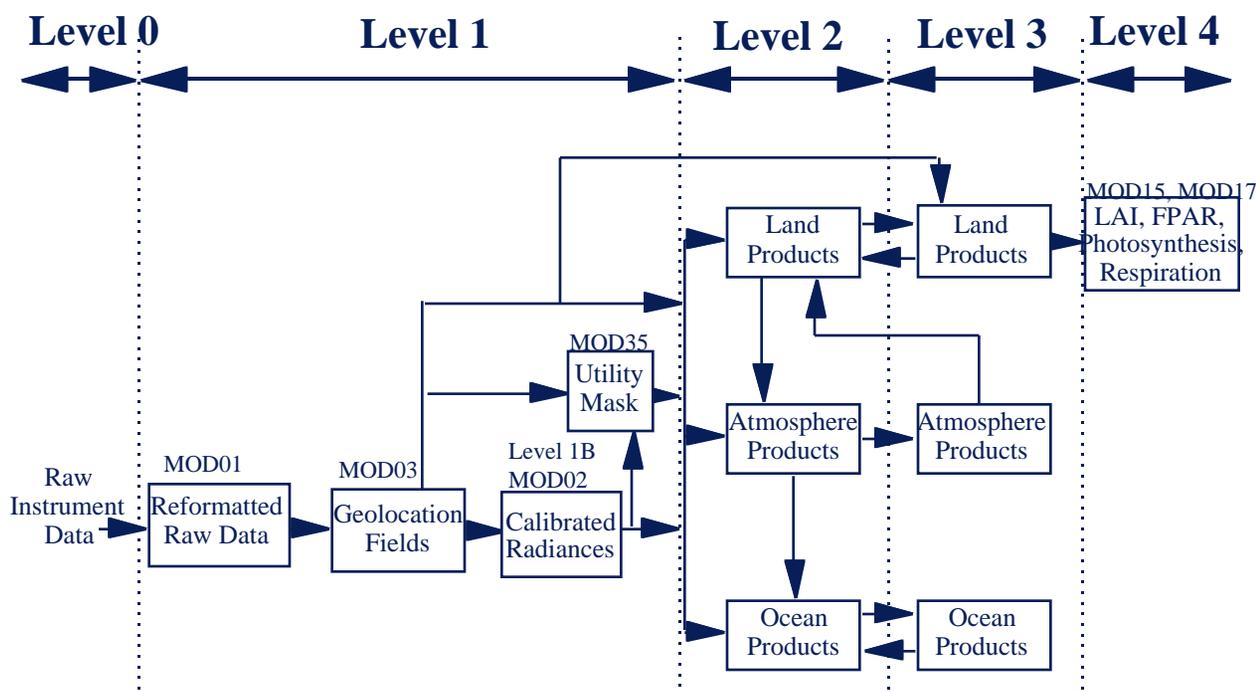
## ***Data Production Issues (Cont)***



- **Considerable Interest in Community to Build Receiving Stations**
- **Single Point Interface Needed Between MODIS Team and User Community**
  - Project Support?
  - NASA HQ Support?
- **Interest In Data Products from**
  - NOAA
  - US Forest Service
  - International Users



# MODIS Product Flow





# ***MODIS Contributions to Fire Analysis for USFS***



- **Fire Danger from Non-Real Time Mode (Weeks to Days Prior to Fire)**
- **Near Real Time Data (Hours to Days from Ignition)**
  - Ignition Location
  - Fire Spread & Fire Behavior
  - Suppression Support
- **Ecosystem Response from Non-Real Time Mode (Weeks to Years)**